MATERIAL SAFETY DATA SHEET

SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

THIS MATERIAL SAFETY DATA SHEET IS AVAILABLE IN SPANISH OR CANADIAN-FRENCH UPON REQUEST.

LOS DATOS DE SEGURIDAD DEL PRODUCTO PUEDEN OBTENERSE EN ESPANOL SI LO REQUIERE.

ON PEUT DEMANDER CETTE MSDS A LA LANGUE FRANCAISE-CANADIENNE.

PRODUCT NAME : DAP POLYURETHANE ROOF & FLASHING SEALANT
UPC NUMBER : 7079818816
PRODUCT USE/CLASS : Polyurethane sealant

MANUFACTURED FOR:
DAP INC.
2400 BOSTON STREET
BALTIMORE, MD 21224
PREPARE DATE : 4/15/1997
REVISION NO. : 3
REVISION DATE: 07/15/2003

24 HOUR EMERGENCY:
TRANSPORTATION: 1-800-535-5053 (352-323-3500)
MEDICAL : 1-800-327-3874 (513-558-5111)
GENERAL INFORMATION:
DAP INC. : 1-888-DAP-TIPS (1-888-327-8477)

SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS

ITEM	CHEMICAL NAME	CAS NUMBER	RANGE WT/WT %
01	Xylenes	1330-20-7	1.0- 3.0 %
02	Titanium dioxide	13463-67-7	1.0- 5.0 %
03	Polyurethane Polymer	Proprietary	20.0-35.0 %
04	Butyl benzyl phthalate	85-68-7	25.0-40.0 %
05	Poly vinyl chloride	9002-86-2	20.0-30.0 %
06	Calcium oxide	1305-78-8	1.0- 5.0 %
07	Mineral spirits	64742-88-7	0.5- 1.5 %
08	Amorphous silica	112945-52-5	0.5- 3.0 %
09	Diisodecyl phthalate	26761-40-0	1.0- 3.0 %
10	Diphenylmethane diisocyanate	26447-40-5	0.1- 0.8 %
11	Ethyl benzene	100-41-4	0.2- 1.0 %
12	Iron oxide	1309-37-1	0.0- 3.0 %
13	Carbon black	1333-86-4	0.0- 1.0 %

EXPOSURE LIMITS

	ACGIH		OSHA		COMPANY	
ITEM	TLV-TWA	TLV-STEL	PEL-TWA	PEL-CEILING	TLV-TWA	SKIN
01	100 ppm.	150 ppm	100 ppm.	150ppm(STEL)	N.E.	NO
02	10 mg/m3dust	N.E.	10 mg/m3dust	N.E.	5 mg/m3dust	NO
03	N.E.	N.E.	N.E.	N.E.	N.E.	NO
04	5 mg/m3	10 mg/m3	5 mg/m3	N.E.	N.E.	NO
05	N.E.	N.E.	N.E.	N.E.	N.E.	NO
06	3 mg/m3	N.E.	5 mg/m3	N.E.	N.E.	NO
07	100 ppm.	N.E.	100 ppm.	N.E.	N.E.	NO

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SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS

EXPOSURE LIMITS

	ACGIH		OSHA		COMPANY	
ITEM	TLV-TWA	TLV-STEL	PEL-TWA	PEL-CEILING	TLV-TWA	SKIN
08	10 mg/m3	N.E.	15 mg/m3	N.E.	N.E.	NO
09	N.E.	N.E.	N.E.	N.E.	N.E.	NO
10	0.005 ppm	N.E.	N.E.	0.02ppm	N.E.	NO
11	100 ppm	150 ppm	100 ppm	125ppm(STEL)	N.E.	NO
12	5 mg/m3(Fume)	N.E.	10 mg/m3(Fume)	N.E.	N.E.	NO
13	3.5 mg/m3	N.E.	3.5 mg/m3	N.E.	N.E.	NO

(See Section 16 for abbreviation legend)

Remaining ingredients are not considered hazardous per the OSHA Hazard Communication Standard.

Listed Permissible Exposure Levels (PEL) are from the U.S. Dept. of Labor OSHA Final Rule Limits (CFR 29 1910.1000); limits may vary between states.

SECTION 3 - HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: Various colored pastes.

WARNING! Can cause headache, irritation, nausea, drowsiness, stupor, coughing spell and allergic respiratory sensitization. Leave area to breathe fresh air. Should be observed by physician immediately if overexposure is severe. Overexposure may cause lung damage. May cause allergic skin reaction. Vapor harmful. Harmful or fatal if swallowed. Causes eye, skin, nose, and throat irritation.

POTENTIAL HEALTH EFFECTS:

EFFECTS OF OVEREXPOSURE - EYE CONTACT: May cause eye irritation including stinging, tearing, redness, and swelling.

EFFECTS OF OVEREXPOSURE - SKIN CONTACT: May irritate skin. May cause drying, cracking, irritation, and burns. Prolonged or repeated contact with xylene and / or ethylbenzene and / or mineral spirits may cause defatting drying and irritation of the skin and dermatitis. May cause allergic reaction. May cause asthma and / or sensitization by inhalation and / or skin contact. Effects may be permanent.

EFFECTS OF OVEREXPOSURE - INHALATION: Vapor harmful if inhaled. Can cause headache, irritation, nausea, drowsiness, stupor, coughing spell and allergic respiratory sensitization. Vapor may cause nose and throat irritation. Vapor inhalation may affect the brain or nervous system causing dizziness, headache or nausea. Individuals with lung or breathing problems or prior reaction to isocyanates must not be exposed to vapor. May cause asthma and / or sensitization by inhalation and / or skin contact. Effects may be permanent.

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SECTION 3 - HAZARDS IDENTIFICATION

EFFECTS OF OVEREXPOSURE - INGESTION: May cause gastrointestinal irritation. Aspiration during swallowing or vomiting may cause lung damage and can be fatal. Swallowing large amounts may be harmful and cause central nervous system effects including death.

EFFECTS OF OVEREXPOSURE - CHRONIC HAZARDS: Reports have associated permanent brain and nervous system damage with prolonged and repeated occupational overexposure to solvents.

Prolonged or repeated contact / exposure to xylene and / or ethyl benzene may cause central nervous system effects, heart muscle sensitization and arrhythmia, hearing loss, and brain, liver, kidney and testes damage.

Prolonged or repeated exposure of the plasticizer to rats produced decreased body weight, spleen and sex organ changes, increased liver and kidney weights, reduced food consumption, weakness, hindlimb stiffness, and effects on the liver, testes and pancreas. Birth defects have been reported in mice and rats, but only at high doses that produce significant toxicity in the mother and offspring. Birth defects have not been observed in rabbits. Evidence of carcinogenicity has been mixed. Initial NTP studies have reported an increased incidence of mononuclear cell leukemias in female rats, a commonly occurring spontaneous disease in the strain, but no increase in tumors in mice. However, a repeat study has not found an increase in leukemias, although an increase in kidney and bladder lesions in females and in pancreatic tumors in males was noted. Furthermore, a concurrent study that restricted diet also has not revealed any increase in tumors in male and female rats. Numerous studies have indicated that it is not genotoxic.

Prolonged or repeated exposure to mineral spirits may cause narcotic and central nervous system effects, liver effects, and jaundice. Kidney and lung effects have been noted in some animal species.

Diphenylmethane diisocyanate caused an increased incidence of lung tumors in experimental animals following long term inhalation at concentrations in excess of 100 times the exposure limit. Overexposure to isocyanate can cause a decrease in lung function. Skin and respiratory sensitization is possible.

Intentional misuse by deliberately concentrating and inhaling vapors may be harmful or fatal.

No serious health effects have been established in man when exposed to carbon black. Inflammation, lung fibrosis, and lung tumors have been observed in animals at levels which overload lung clearing mechanisms. Carbon black contains varying amounts of polynuclear aromatic hydrocarbons which have been found to cause cancer in animals. Solvent extracts of carbon black are carcinogenic to the skin of mice. It is classified by IARC to be a known animal carcinogen and a possible human carcinogen (Group 2B).

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SECTION 3 - HAZARDS IDENTIFICATION

Fillers are encapsulated and not expected to be released from product under normal conditions of use.

MEDICAL CONDITIONS WHICH MAY BE AGGRAVATED BY CONTACT: Pre-existing eye, skin, liver, and respiratory disorders and allergies, including asthma, bronchitis, and emphysema, may be aggravated by exposure. Allergies, eczema and other skin conditions. Individuals with lung, breathing problems, or prior reactions to isocyanates must not be exposed to vapor.

PRIMARY ROUTE(S) OF ENTRY: SKIN CONTACT SKIN ABSORPTION INHALATION EYE CONTACT

EYE CONTACT: Flush with large quantities of water for at least 15 minutes lifting the upper and lower lids occasionally until irritation subsides. Contact a physician immediately.

SECTION 4 - FIRST AID MEASURES

SKIN CONTACT: Wash with soap and water.

INHALATION: Remove to fresh air. Contact a physician immediately.

INGESTION: DO NOT INDUCE VOMITING. Get medical attention immediately.

COMMENTS: Call Medical in Section 1 if irritation or complications arise from any of the above routes of entry.

SECTION 5 - FIRE FIGHTING MEASURES

FLASH POINT: N.E. (>200 F)

LOWER EXPLOSIVE LIMIT: N.E.
UPPER EXPLOSIVE LIMIT: N.E.

AUTOIGNITION TEMPERATURE: N.E.

EXTINGUISHING MEDIA: WATER FOG

UNUSUAL FIRE AND EXPLOSION HAZARDS: Containers may explode if exposed to extreme heat. Do not put in contact with oxidizing or caustic materials.

SPECIAL FIREFIGHTING PROCEDURES: Full protective equipment, including self-contained breathing apparatus, is recommended to protect from combustion products. Cool exposed containers with water.

OTHER PRECAUTIONS: Hydrocyanic acid and oxides of nitrogen may form.

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SECTION 6 - ACCIDENTAL RELEASE MEASURES

SPILL OR LEAK PROCEDURES: Dike spill area. Absorb remaining liquid with absorbent material and place into containers.

SECTION 7 - HANDLING AND STORAGE

HANDLING INFORMATION: KEEP OUT OF REACH OF CHILDREN. Keep containers tightly closed when not in use. Keep containers from excessive heat and freezing. Prevent inhalation of vapor, ingestion, and contact with skin and eyes. Precautions also apply to empty containers.

STORAGE INFORMATION: Keep containers tightly closed when not in use. Keep containers from excessive heat and freezing. Do not store at temperatures above 120 degrees F(49 C).

OTHER PRECAUTIONS: Intentional misuse by deliberately concentrating and inhaling vapors may be harmful or fatal. Do not take internally. Use in a well ventilated area. Construction and repair activities can adversely affect indoor air quality. Consult with the occupants or a representative(i.e. maintenance, building manager, industrial hygienist, or safety officer) to determine ways to minimize any impact.

SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: Provide sufficient mechanical ventilation (local or general exhaust) to maintain exposure below PEL and TLV. Vapors are heavier than air and will collect in low areas. Check all low areas (basements, sumps, etc.) for vapors before entering.

RESPIRATORY PROTECTION: A respiratory protection program that meets OSHA 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use. Select positive pressure supplied air respirator (TC19C or equivalent) for isocyanates. Not required under normal usage and adequate ventilation.

EYE PROTECTION: Safety glasses with side shields recommended.

SKIN PROTECTION: Prevent contact with skin. Impervious rubber gloves and typical full cover clothing if necessary.

OTHER PROTECTIVE EQUIPMENT: Provide eyewash and solvent impervious apron if body contact may occur.

HYGIENIC PRACTICES: Wash contaminated clothing before reuse. Clean hands thoroughly after handling.

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SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

BOILING RANGE	: N.A.	VAPOR DENSITY	: Is heavier than air
ODOR	: Sl. aromatic		
APPEARANCE	: Color of pigment	EVAPORATION RATE:	Is slower than Butyl Acetate
SOLUBILITY IN H2O	: Insoluble		
SPECIFIC GRAVITY	: 1.145		
VAPOR PRESSURE	: N.A.		
PHYSICAL STATE	: Paste		

(See Section 16 for abbreviation legend)

SECTION 10 - STABILITY AND REACTIVITY

CONDITIONS TO AVOID: Avoid contact with alcohols, amines, strong strong bases, and surface active materials. Material will cure in presence of humid air or moisture.

INCOMPATIBILITY: Strong oxidizers and caustics.

HAZARDOUS DECOMPOSITION PRODUCTS: Carbon dioxide, carbon monoxide, nitrogen oxides, hydrocyanic acid and traces of isocyanates.

HAZARDOUS POLYMERIZATION: Will not occur under normal conditions.

STABILITY: This product is stable under normal storage conditions.

SECTION 11 - TOXICOLOGICAL PROPERTIES

TOXICITY DATA

N.E.

(See Section 16 for abbreviation legend)

SECTION 12 - ECOLOGICAL INFORMATION

N.E.

(See Section 16 for abbreviation legend)

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SECTION 13 - DISPOSAL CONSIDERATIONS

WASTE MANAGEMENT/DISPOSAL: State and Local regulations/restrictions are complex and may differ from Federal regulations. Responsibility for proper waste disposal is with the owner of the waste.

EPA WASTE CODE - If discarded (40 CFR 261): none.

SECTION 14 - TRANSPORTATION INFORMATION

DOT PROPER SHIPPING NAME: Not Regulated by D.O.T.
DOT HAZARD CLASS: NONE
DOT UN/NA NUMBER: NONE PACKING GROUP: NONE

SECTION 15 - REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS: AS FOLLOWS -

OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200)

SARA SECTION 313:
This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372:

CHEMICAL NAME	CAS NUMBER
Ethyl benzene	100-41-4
Xylenes	1330-20-7
Diphenylmethane diisocyanate	26447-40-5
4,4'-methylene bis (phenyl isocyanate)	101-68-8
P-toluene sulfonyl isocyanate	4083-64-1

TOXIC SUBSTANCES CONTROL ACT:
This product contains the following chemical substances subject to the reporting requirements of TSCA 12(B) if exported from the United States:

CHEMICAL NAME	CAS NUMBER
None	

NEW JERSEY RIGHT-TO-KNOW:
The following materials are non-hazardous, but are among the top five components in this product:

CHEMICAL NAME	CAS NUMBER
None	

PENNSYLVANIA RIGHT-TO-KNOW:
The following non-hazardous ingredients are present in the product at greater than 3%:

CHEMICAL NAME	CAS NUMBER
None	

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SECTION 15 - REGULATORY INFORMATION

CALIFORNIA PROPOSITION 65:
WARNING: The chemical(s) noted below and contained in this product, are known to the state of California to cause birth defects or other reproductive harm:

CHEMICAL NAME	CAS NUMBER
Toluene	108-88-3
Aromatic petroleum distillates	64742-95-6

INTERNATIONAL REGULATIONS: AS FOLLOWS -

CANADIAN WHMIS: This MSDS has been prepared in compliance with Controlled

SECTION 15 - REGULATORY INFORMATION

Product Regulations except for use of the 16 headings.

CANADIAN WHMIS CLASS: Not regulated.

SECTION 16 - OTHER INFORMATION

HMIS RATINGS - HEALTH: 1 FLAMMABILITY: 1 REACTIVITY: 0

PREVIOUS MSDS REVISION DATE: 04/04/2000

VOC Material: 45-50 g/L(Calculated)

LEGEND: ACGIH - AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGIENISTS
N.A. - NOT APPLICABLE
N.E. - NOT ESTABLISHED
PEL - PERMISSIBLE EXPOSURE LIMIT
NTP - NATIONAL TOXICOLOGY PROGRAM
SARA - SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986
STEL - SHORT TERM EXPOSURE LIMIT
TLV - THRESHOLD LIMIT VALUE(8 HR. TIME WEIGHTED AVERAGE OR TWA)
VOC - VOLATILE ORGANIC COMPOUND
NJRTK - NEW JERSEY RIGHT TO KNOW LAW
N.D. - NOT DETERMINED
MSDS# 77350

This data is offered in good faith as typical values and not as a product specification. No warranty either express or implied, is hereby made. The recommended industrial hygiene and safe handling procedures are believed to be generally applicable. However, each user should review the recommendations in specific context of the intended use and determine if they are appropriate.

< End OF MSDS >